

Claims

1. A plant comprising a cell comprising a functional mammalian enzyme or functional fragment thereof providing N-glycan biosynthesis additionally having been provided with an expression vector comprising a nucleic acid encoding a thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional
5 fragment thereof.
2. A plant according to claim 1 wherein said enzyme comprises human β 1,4-galactosyltransferase.
3. A plant according to claim 1 or 2 wherein said thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional fragment thereof comprises an
10 extended N-linked glycan.
4. A plant according to claim 3 wherein a said extended N-linked glycan comprises galactose.
5. A plant according to claim 4 wherein a said extended N-linked glycan is devoid of xylose.
- 15 6. A plant according to claim 4 wherein a said extended N-linked glycan is devoid of fucose.
7. A plant according to anyone of claims 1 to 6 wherein said expression vector is derived from a plant virus.
8. A plant according to claim 7 wherein said virus is a tobamovirus such as tobacco
20 mosaic virus.
9. A plant according to anyone of claims 1 to 8 which comprises a tobacco plant.
10. A plant according to anyone of claims 1 to 9 wherein said gonadotrophin comprises FSH.
11. Use of a plant according to anyone of claims 1 to 10 to produce a desired
25 thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional fragment thereof.
12. Use according to claim 11 wherein said thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional fragment thereof comprises an extended N-linked glycan et least comprising galactose.

13. A method for obtaining a desired thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional fragment thereof comprising cultivating a plant according to anyone of claims 1 to 10 until said plant has reached a harvestable stage, harvesting and fractionating said plant to obtain fractionated plant material
5 and at least partly isolating said thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor from said fractionated plant material.
14. A plant-derived thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional fragment thereof comprising an extended N-linked glycan at least comprising galactose.
- 10 15. A plant-derived thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional fragment thereof obtained by a method according to claim 13.
16. Use of a thyroid-stimulating hormone or gonadotrophin or gonadotrophin-receptor or functional fragment thereof according to claim 14 or 15 for the production
15 of a pharmaceutical composition.
17. Use of a gonadotrophin or gonadotrophin-receptor or functional fragment thereof according to claim 14 or 15 for the production of a pharmaceutical composition for the treatment of a reproductive disorder.
18. A pharmaceutical composition comprising a thyroid-stimulating hormone or
20 gonadotrophin or gonadotrophin-receptor or functional fragment thereof according to claim 14 or 15.